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# Avalanche Notes

U.S. Forest Service  
Westwide Avalanche Network

FEBRUARY 1981

February snowfall was highly variable in the West, with storms favoring a northern track. Ample precipitation fell in the Cascades of Washington and Oregon, but much of this fell as rain. Most of the snowfall there came from the 12th-20th. Alpine Meadows, CA got most of its snowfall in one day, the 25th, when 28 inches fell. Alyeska, AK was snowy most of the month, and Bridger Bowl, MT reported snow almost every day from the 7th-21st. Alta, UT had three big snowdays--the 1st, 21st, and 27th--which totaled 49 inches. Taos, NM failed to pay its dues, so it got only 2 inches for the month. Here are some snowfall figures as a percent of February normals: Alyeska, 109%; Crystal Mt., 64%; Mt. Baker, 56%; Mt. Rainier, 91%; Stevens Pass, 70%; Alpine Meadows, 59%; Mammoth Mt., 28%; Alta, 103%; Bridger Bowl, 146%; Jackson Hole, 59%; Sun Valley, 53%; Aspen, 42%; Berthoud Pass, 57%; Vail, 66%; and Taos, 6%.

Snowfall totals for November-February show that Colorado is now drier this winter compared to the last drought winter, 1976-77. In the San Juan Mts. of southern Colorado, at least one snow course is reading its lowest ever in 44 years of record. Denver has just recorded its second warmest winter in history; 1933-34 was slightly warmer. For the rest of the West, 1976-77 was drier than the current winter.

February's avalanche total was the highest yet this winter. Bridger Bowl and Stevens Pass contributed substantially to the total. Many of those at Stevens Pass fell on the 12th when 19 inches of snow fell. Much of the snowpack in the Intermountain and Rocky Mt. regions consisted of weak depth hoar. This contributed to several serious accidents in February. Three of these resulted in fatalities.

On the 1st, a ski tourer was buried and killed in Big Cottonwood Canyon, UT. He triggered the slide and could not be found by his skiing companions. Two hours later, an avalanche dog made the find. The victim had been buried 5 feet deep. Avalanche warnings were in effect at the time. On the 15th in the Ruby Mts. near Lamoille, NV, a snowmobiler was killed when she was struck by an avalanche triggered by other machines higher on the slope. She and her snowmobile were swept onto a frozen lake which cracked under the weight of the avalanche. The body has not been found. Also on the 15th at Schweitzer Basin, ID, a lone skier triggered a small slide that buried him deeply. Falling and blowing snow quickly obscured the avalanche. For 3 days, searchers combed the ski area and beyond, but to no avail. Finally on the 19th, an avalanche dog found the victim in the old slide debris. He was buried 6 feet deep and wrapped around a tree. On the 22nd, an avalanche in Big Cottonwood Canyon, UT seriously injured three helicopter skiers. The slide caught the three skiers and the guide. The guide hung onto a tree while the other three were swept on a fast ride thru scattered trees. All three suffered broken bones. This slope had been bombed and skied the previous day.

In all, 23 people were caught, 9 wholly or partly buried, 4 injured, and 3 killed during the month. The accident statistics thru February are tabulated below.

## TOTAL AVALANCHES REPORTED

## DAMAGE SUMMARY - THIS WINTER

AREA	THIS MONTH	THIS WINTER	PEOPLE				VEHICLES		AVALANCHE DAMAGED		
			C	B	I	K	B	D	BLDGS	LIFTS	MISC
CENTRAL & SO. ROCKIES	316	671	14	5	1	3	2	0	0	0	0
INTERMOUNTAIN	356	901	28	12	4	3	1	1	0	1	0
WEST COAST	694	1508	11	3	0	0	0	0	0	1	0
ALL AREAS	1366	3080	53	20	5	6	3	1	0	2	0



U.S. FOREST SERVICE  
ALPINE SNOW AND AVALANCHE RESEARCH PROJECT  
RM STATION FORT COLLINS, COLO.

FEBRUARY 1981  
AVALANCHE SUMMARY

AREA	TOTAL		TOTAL		DATES		TYPE OF AVALANCHE	FRACTURE		VERTICAL DESCENT		AVALANCHES ACROSS MAJOR ROADS NO.
	A V L S	THIS MONTH NO.	A V L S	THIS MONTH NO.	F I R S T	L A S T		LINE HEIGHTS IN FEET	GE 4 6 6	GE 200 500 1000 FET	MAX FET	

CENTRAL AND SOUTHERN ROCKY MOUNTAINS

ASPEN MOUNTAIN, COLO	22	10	1	1	13	13	0	0	1	0	0	0	200	0
ASPEN SNOWMASS, COLO	22	43	1	1	13	13	0	0	1	0	0	0	600	0
BEAVER CREEK, COLO	1	4	1	1	13	13	0	0	1	0	0	0	200	0
BERTHOUD PASS, COLO	38	117	1	1	13	13	0	0	1	0	0	0	200	0
BRECKENRIDGE, COLO	10	16	1	1	13	13	0	0	1	0	0	0	200	0
CAMERON PASS, COLO	29	47	1	1	13	13	0	0	1	0	0	0	200	0
CRESTED BUTTE, COLO	15	23	1	1	13	13	0	0	1	0	0	0	200	0
GOTHIC, COLO	51	100	1	1	13	13	0	0	1	0	0	0	200	0
LOVELAND PASS, COLO	23	42	1	1	13	13	0	0	1	0	0	0	200	0
MONARCH, COLO	43	78	1	1	13	13	0	0	1	0	0	0	200	0
RED MOUNTAIN PASS, COLO	23	47	1	1	13	13	0	0	1	0	0	0	200	0
STEAMBOAT SPRINGS, COLO	23	47	1	1	13	13	0	0	1	0	0	0	200	0
SUNLIGHT, COLO	13	12	1	1	13	13	0	0	1	0	0	0	200	0
TAOS, N.M.	13	12	1	1	13	13	0	0	1	0	0	0	200	0
TRAD, N.M.	13	12	1	1	13	13	0	0	1	0	0	0	200	0
WOLF CREEK, COLO	9	21	1	1	13	13	0	0	1	0	0	0	200	0

INTERMOUNTAIN

ALTA, UTAH	37	142	1	1	27	27	0	0	1	0	0	0	100	0
BIG MOUNTAIN, MONT	39	153	1	1	27	27	0	0	1	0	0	0	100	0
BRIDGER BOWL, MONT	38	153	1	1	27	27	0	0	1	0	0	0	100	0
JACKSON HOLE, WYO	158	219	1	1	27	27	0	0	1	0	0	0	100	0
SCHWEITZER BASIN, ID	4	15	1	1	27	27	0	0	1	0	0	0	100	0
SNOW BASIN, UTAH	3	201	1	1	27	27	0	0	1	0	0	0	100	0
SNOWBIRD, UTAH	66	201	1	1	27	27	0	0	1	0	0	0	100	0
TETON PASS, WYO	22	50	1	1	27	27	0	0	1	0	0	0	100	0
WASATCH RANGE, UTAH	20	50	1	1	27	27	0	0	1	0	0	0	100	0

WEST COAST

ALPINE MEADOWS, CAL	48	285	1	1	25	25	0	0	1	0	0	0	100	0
ALYSELOR, BUTTE, ORE	67	243	1	1	25	25	0	0	1	0	0	0	100	0
BACHELOR PASS, CALIF	25	68	1	1	25	25	0	0	1	0	0	0	100	0
CARSON PASS, CALIF	74	14	1	1	25	25	0	0	1	0	0	0	100	0
CRISTAL MOUNTAIN, CAL	3	93	1	1	25	25	0	0	1	0	0	0	100	0
EAGLE CREST, ALA	4	14	1	1	25	25	0	0	1	0	0	0	100	0
HEAVENLY VALLEY, CAL	22	93	1	1	25	25	0	0	1	0	0	0	100	0
KIRKWOOD MOUNTAINS, CAL	59	114	1	1	25	25	0	0	1	0	0	0	100	0
MAMMOTH MOUNTAIN, CALIF	51	96	1	1	25	25	0	0	1	0	0	0	100	0
MISSION RIDGE, CALIF	11	11	1	1	25	25	0	0	1	0	0	0	100	0
MT. HOOD MEADOWS, WASH	3	8	1	1	25	25	0	0	1	0	0	0	100	0
MT. RAULSTER, WASH	11	11	1	1	25	25	0	0	1	0	0	0	100	0
MT. ROSE, CALIF	18	124	1	1	25	25	0	0	1	0	0	0	100	0
SQUAM VALLEY, CALIF	18	124	1	1	25	25	0	0	1	0	0	0	100	0
STEVENS PASS, WASH	27	124	1	1	25	25	0	0	1	0	0	0	100	0
SUGAR BOWL, CALIF	23	75	1	1	25	25	0	0	1	0	0	0	100	0
WHITE PASS, WASH	23	75	1	1	25	25	0	0	1	0	0	0	100	0

--DATA INCOMPLETE OR MISSING  
--GREATER THAN OR EQUAL TO  
--ALSO OCCURRED ON OTHER DATES

U.S. FOREST SERVICE  
ALPINE SNOW AND AVALANCHE RESEARCH PROJECT  
RM STATION FORT COLLINS, COLO.

FEBRUARY 1981

SUMMARY OF WEATHER AND SNOW CONDITIONS

AREA	SNOWFALL			WATER EQUIVALENT			SNOW DEPTH			TEMPERATURE			WIND SPEED AND DIRECTION		
	TOTAL SNOW-FALL IN.	AVG DEN IN.	MAX IN.	TOTAL WATER IN.	MAX IN.	D A 6E 1.2 5 1.0	D A MIN IN.	T MIN IN.	AVG IN.	MEAN MAX DEGREES F	MEAN MIN DEGREES F	AVG MO. MPH	4-HOUR PERIODS 6E 15 20	FASTEST HOUR MPH	DIR.
CENTRAL AND SOUTHERN ROCKY MOUNTAINS															
ABRAHAM BASIN, COLO	25.0	.09	11 10	1.31	.55	-21	10	25	28	17.0	4.0M	10.5M	15	35	10
ABRAHAM CREEK, COLO	25.0	.10	8 10	2.45	1.13	10	10	18	25	11.9	11.9	19.2	15	30	10
BEAVER CREEK, COLO	27.5	.07	8 10	1.96	.54	10	10	25	32	3.9	3.9	16.7	15	30	10
BERTHOUD PASS, COLO	13.5	.05	4 10	.71	.21	10	10	13	15	3.4	3.4	17.0	15	30	10
CLIPPER MTN, COLO	24.5	.06	6 10	1.59	.60	10	10	13	25	3.7	3.7	20.3M	15	30	10
COPPER BUTTE, COLO	8.0	.07	10 10	1.57	.45	10	10	17	25	10.9M	10.9M	14.4	15	30	10
GOTHIC, COLO	20.5	.08	10 10	1.89	1.05	10	10	22	27	-11.5	-11.5	11.2	15	30	10
LOVELAND PASS U.S. 6	20.5	.07	8 10	2.05	.60	10	10	14	18	4.7	4.7	13.9	15	30	10
MARVINE RANCH, COLO	27.5	.08	9 10	2.16	.70	10	10	26	34	3.3	3.3	13.4	15	30	10
MONARCH, COLO	22.5	.08	12 27	1.90	1.30	10	10	30	30	15.3	15.3	25.8M	15	30	10
PURGATORY, COLO	22.5	.08	17 10	1.48	.40	10	10	22	22	18.3	18.3	21.8M	15	30	10
SUNLIGHT, COLO	35.5	.07	1 1	2.39	.55	10	10	26	40	11.7	11.7	16.6	15	30	10
TAOS, NEW MEXICO	18.0	.06	7 10	1.13	.57	10	10	20	21	2.5	2.5	16.3	15	30	10
VAIL, COLO	19.5	.10	9 10	1.19	.70	10	10	44	46	7.1	7.1	20.4	15	30	10
WINTER PARK IE, COLO															
WOLF CREEK, COLO															
INTERMOUNTAIN															
ALTA, UTAH	80.0	.07	19 16	5.99	1.31	27	1	40	45	13.7M	13.7M	23.8M	15	30	10
BIG MOUNTAIN, MONT	43.7	.09	15 8	7.05	2.05	17	1	42	54	17.6M	17.6M	24.1M	15	30	10
BIG SKY, MONT	71.0	.12	16 9	5.09	1.09	16	1	29	71	13.2M	13.2M	20.3M	15	30	10
JACKSON HOLE 1, WYO	44.0	.09	16 16	3.12	.88	26	1	68	71	13.6M	13.6M	20.3M	15	30	10
SCHWEITZER BASIN, ID	34.0	.09	16 25	3.12	1.31	26	1	46	63	19.3	19.3	22.5	15	30	10
SNOW BASIN, UTAH	63.0	.08	13 14	4.80	1.62	30	1	48	56	15.6M	15.6M	25.6M	15	30	10
SNOW BIRD, UTAH	16.5	.09	17 9	1.72	.62	14	1	41	45	12.7	12.7	21.2	15	30	10
SUN VALLEY, IDAHO	33.5	.08	9 9	2.64	.58	1	1	42	36	13.1	13.1	19.5	15	30	10
TETON PASS, WYO 22															
WEST COAST															
ALPINE MEADOWS, CAL	26.5	.08	12 25	4.2	.26	14	1	15	22	18.1	18.1	33.0	15	30	10
ALPINE MEADOWS, CAL	37.0	.12	15 20	5.61	.26	12	1	32	44	20.1	20.1	34.9	15	30	10
CRYSTAL MOUNTAIN, WASH	104.0	.09	16 20	12.51	.29	13	1	96	109	25.1	25.1	37.9	15	30	10
CRYSTAL MOUNTAIN, WASH	53.0	.13	11 11	9.71	.34	11	1	29	42	21.0	21.0	27.9	15	30	10
EAGLE CREST, CALIF	32.5	.11	17 25	5.32	.25	14	1	36	50	19.6M	19.6M	28.5M	15	30	10
HEAVENLY VALLEY, CALIF	17.5	.05	4 9	.82	.25	14	1	36	50	19.6M	19.6M	28.5M	15	30	10
JUNE MOUNTAIN, CALIF	8.0	.12	8 10	2.37	.75	19	1	50	67	21.8M	21.8M	28.1M	15	30	10
MISSION RIDGE, WASH	17.0	.07	11 20	4.19	.20	16	1	20	23	21.5M	21.5M	28.1M	15	30	10
MISSION RIDGE, WASH	61.0	.15	11 20	11.70	.36	16	1	15	27	21.5M	21.5M	28.1M	15	30	10
MT. BAKER, WASH	43.0	.11	18 24	18.33	.36	16	1	38	67	21.5M	21.5M	28.1M	15	30	10
MT. HOOD MOUNTAIN, ORE	95.0	.17	26 32	10.80	.36	16	1	38	67	21.5M	21.5M	28.1M	15	30	10
MT. RAINIER, PARADISE	16.5	.13	11 25	10.80	.36	16	1	38	67	21.5M	21.5M	28.1M	15	30	10
MULTNOMAH SKI, BULW	16.5	.13	11 25	10.80	.36	16	1	38	67	21.5M	21.5M	28.1M	15	30	10
MULTNOMAH SKI, BULW	16.5	.13	11 25	10.80	.36	16	1	38	67	21.5M	21.5M	28.1M	15	30	10
SQUAW VALLEY, CALIF	26.0	.16	16 25	15.79	.43	16	1	51	159	23.6M	23.6M	30.8M	15	30	10
STEVENSON PASS, WASH	59.0	.12	16 25	15.79	.43	16	1	51	159	23.6M	23.6M	30.8M	15	30	10
SUGAR BOWL, CALIF	23.0	.00	14 25	15.61	.92	16	1	32	17	23.2	23.2	31.4	15	30	10

-- DATA INCOMPLETE OR MISSING  
M-ONE OR MORE DAYS OF RECORD MISSING-IF AVERAGE VALUE IS ENTERED, LESS THAN 10 DAYS RECORD IS MISSING  
IF M IS ENTERED IN WIND SPEED COLUMN, LESS THAN 37 6-HOUR PERIODS ARE MISSING  
GE--GREATER THAN OR EQUAL TO